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7TH ANNUAL GREAT CANADIAN SOLAR RACE

FINAL REPORT

PREPARED FOR

Efficiency and Alternative Energy Technology Branch
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EXECUTIVE SUMMARY

Since 1985, the Solar Energy Society of Canada Inc. ("SESCI") has sponsored a series of events among students from all academic levels, collectively known as the Great Canadian Solar Race with the objective of creating awareness among the next generation of the availability and potential of renewable energy technologies.

This year Great Canadian Solar Race events were held in three locations: the Kortright Centre for Conservation, Nathan Phillip Square outside Toronto City Hall, and at the Legislative Grounds in Winnipeg.

Regrettably, due to the lack of entries and despite wide-spread promotion, the Ontario Solar Hot Dog Cooking Contest, designed for elementary students, as well as the post-secondary students' "Big Splash" Water Pump Design Competition were cancelled. However, plenty of solar presentations were lined up, starting with University of Toronto students and their state-of-the-art water pump design; as well as Alex Waters of Kortright Centre and Alfred Brunger from the University of Waterloo who demonstrated a solar oven cooker, hot dog cooker, and a tea maker.

The highlight of the Race, and featured for the very first time, was the Solar Drag Race for high school students. This event required students to build unmanned mini solar cars and race them in a series of elimination drag races down a straight raceway. This event attracted a great deal of public as well as media attention, especially during the finals which were held at Nathan Phillip Square during SESCI's annual conference.

Also new this year was the Environmental Art Exhibition, designed to give students at all levels an opportunity to express artistically the environmentally sound energy alternatives they would like to see developed for their generation. As a result, thirteen energy-related posters were selected, from among the posters that were submitted from various Ontario elementary schools, to go into the making of a 1991-1992 teacher-student calendar.

Since 1985 the number of schools participating in the Race has grown tremendously and with the success of the Race in Ontario, this year SESCI decided to expand the Race to Winnipeg, Manitoba. SESCI's Manitoba Chapter hosted their first Great Canadian Solar Race event, a Solar Hot Dog Cooking Contest. It was a successful first race with 11 high schools participating.

As in previous years, contributions from Energy, Mines & Resources Canada, Ontario Ministry of Energy, and Ontario Hydro helped make it possible to maintain the Race as an annual event. This year, the Ontario Ministry of the Environment lent their support by providing $5,000.00 to help defray the costs of producing the 1991-1992 teacher-student calendar.

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PROMOTION/PUBLICITY

In early fall of 1990, through direct mailing, invitations to participate in the "Big Splash" Water Pump competition were sent to the Deans of Engineering of more than 80 universities as well as colleges across Canada. Follow-up telephone calls to the above institutions were made in October, 1990 and again in January, 1991.

In the same manner, announcements regarding the Solar Hot Dog Cooking Contest, the Solar Drag Race Event and the Environmental Art Exhibit were forwarded to more than 700 secondary as well as elementary schools across Ontario and Manitoba detailing the specifics of each event.

On February 21, 1991, both SESCI and Kortright Centre for Conservation attended the Energy Educators of Ontario's exhibition in North Bay, Ontario to distribute information and to promote the Race.

The art posters from the Environmental Art Exhibit were put on display at the Kortright Centre for Conservation on June 1, 1991 to kick-off the National Environment Week. From this display, 13 posters representing various grade levels were chosen to create a teacher/student calendar for 1991/1992 and these calendars will in turn be distributed among the schools in Ontario.

Following the Great Canadian Solar Race, all students were asked to use their posters as placards and participate in a parade downtown Yonge Street in Toronto, Ontario on June 22, 1991. The parade, called "Running on Empty", demonstrated vehicles that operate on environmentally responsible fuels.

As well, all students entered in the Solar Drag Race were invited back to do another spin-off at Toronto City Hall.

Public relations included mention of the events in the Kortright Centre's regular brochures and advertising material as well as informing the various newspapers, radio and television stations. Participating schools and universities were also encouraged to promote the events within their respective institutions.

Information regarding the Race was includedin the 17th annual SESCI conference program. Additionally public event announcements, calendars, media releases as well as media kits and public service announcements were sent out (see Appendix A).

SOLAR DEMONSTRATIONS

Former Provincial Energy Minister Jenny Carter made a special appearance to view a variety of demonstrations starting with the water pump designed by Bruce Nairn and Lawrence Gryniewski from the University of Toronto with their state-of-the-art water pump design; as well as Alex Waters of Kortright Centre and Alfred Brunger from the University of Waterloo who demonstrated a solar oven cooker, hot dog cooker, and a tea maker. As usual, the most popular demonstration was Kortright's solar-powered vehicle. This culminated in the Globe and Mail publishing a photograph of the minister driving Kortright's solar-powered tricycle on page 3 of its June 3rd issue.

ENVIRONMENTAL ART EXHIBIT

Over 50 posters were entered in this event and only 13 were chosen to go into the making of the 1991/1992 teacher-student calendar. The Hon. Jenny Carter chose the 13th winning poster which had a serious message "If We Don't Conserve Energy, This Will Be Our Planet BOOM!".

Posters ranged from the original theme of "Energy & Environment...The Next Generation" to "Help Preserve Our Energy & Our Environment" and "Year 2000 - The Solar Car".

The posters were also displayed at Toronto City Hall in conjunction with SESCI's 17th annual conference.

Subsequently 1,000 calendars were printed and mailed to science coordinators across Ontario, along with a complimentary issue of SOL and information on the 1992 GCSR.

SOLAR DRAG RACE

Featured for the very first time, 22 teams of high school students participated in the Solar Drag Race at Kortright down a straight 15 metre runway. The vehicles were powered by PV panels provided by Ontario Hydro. At the end of the day, "Solar Blitz" was declared the winning car, designed by the team from Oakville-Trafalgar High School. Second prize went to "Blue Baby" from Earl of March Secondary School in Kanata and third place winner was the "Marauder 1" from Markham District High School.

During the SESCI conference at Toronto City Hall, Solar Drag Race finals were held at Nathan Phillip Square. This proved to be the most popular event; however, students had problems finding the right motor and gears.

GREAT CANADIAN SOLAR RACE IN MANITOBA

Based on the consistent success of previous years' Races, the 1991 Race was expanded to include activities in Manitoba. For its first year's event, the SESCI Manitoba chapter hosted a Great Canadian Solar Hot Dog Cook-Off. The contest involved 19 elementary students and 10 solar hot dog cookers. The event attracted media attention from CBC Radio, who interviewed students on-site. SESCI Manitoba is eager to participate in the 1992 GCSR.

RECOMMENDATIONS

1. Although much more advertising of the Race was done this year than previous years, greater effort is needed to promote the Race to students of all ages, the media and, most importantly, the general public. More promotional/ introductory material should be sent to the media three months prior to the Race and the final program should be mailed a few weeks before the Race. To ensure attendance, follow up telephone calls to the media should also be done.

2. SESCI Manitoba Chapter had their first successful Race this year with one event, the solar hot dog cooking contest, and has expressed interest and enthusiasm in holding this event again next year. If sufficient funding can be obtained from the various provincial ministries of energy and utilities, SESCI would like to expand the 8th Annual Great Canadian Solar Race to Edmonton; while at the same time overseeing the Race at the Kortright Centre as well as assisting the Manitoba Chapter with their 2nd annual event. Eventually, SESCI would like to see the Race consist of regional events with a national run-off.

3. The university/college institutions should be approached as early as August, to allow the students sufficient time to prepare for their projects. It would also be useful to post the "Invitation to Compete" in the Race in the university/ college newspapers. Follow-up telephone calls to individual professors are always helpful, since solar energy is not popular in the engineering curriculum.

4. The debut Mini Drag Race proved very popular and should be repeated next year. This event drew the most attention because of its fun and inventive characteristics. However, participants found the PV panels too heavy and requested lighter modules in 1992. Alex Waters is revising the race criteria to reflect this and also so that teams participating for the second time will not have an unfair advantage.

5. To open the GCSR up to non-technically oriented students, SESCI proposes to hold a "RAP" event. Students would write rap songs extolling the benefits of renewable energy and send a tape to SESCI for preliminary judging. Finalists would choreograph their songs and perform at Kortright. This low-cost event, for both organizers and participants, has excellent media potential and would help round out the day's events.

6. Although the art exhibit in Ontario was successful, SESCI is conscious that GCSR should be open to all Canadian students. Moreover, many other organizations are producing calendars. SESCI recommends replacing the calendar with the above rap event.

FINAL BUDGET ANALYSIS

		BUDGETED	ACTUAL
I.	REVENUE		
	Ontario Hydro PV Panels	$ 1400.	$ 1400.
	Energy, Mines & Resources	8000.	5000.
	Ontario Ministry of Energy	6000.	6000.
	Kortright Centre	3500.	3500.
	Ministry of the Environment	5000.	5000.
	Manitoba Ministry of Energy	5000.	0.
	SESCI - Manitoba Chapter	2400.	1400.
	SESCI	4000.	4000.
	TOTAL REVENUE	$ 35300.	$ 26300.
II.	EXPENDITURES		
	Labour: Management	$ 3100.	$ 6500.
	Assistants	2800.	5600.
	Communication: Telephone/fax	1000.	348.
	Postage/courier	1700.	1700.
	Press Releases	800.	0.
	Travel Expenses	4700.	950.
	PV Panels	1400.	1400.
	Lift	500.	0.
	DC Plugs	300.	300.
	Promotion: Energy Educators	1000.	450.
	Toronto Display	500.	0.
	Printing: Calendars	5000.	7010.
	Announcements/Rules	2500.	1000.
	Computer Network	600.	0.
	Logo Design	200.	50.
	Signage	300.	0.
	Hats	1000.	920.
	Photos	300.	40.
	Stationery	200.	200.
	Photocopies	1000.	170.
	Prizes: "Big Splash" Water Pump	700.	300.
	High School Events	1100.	800.
	SESCI Memberships	600.	600.
	Plaques	400.	125.
	Food & Beverages	3300.	300.
	Miscellaneous	300.	0.
	TOTAL EXPENDITURES	$ 35300.	$ 28763.

ACKNOWLEDGEMENT

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1. Energy, Mines & Resources Canada
2. Kortright Centre for Conservation (especially Alex Waters)
3. Ontario Hydro
4. Ontario Ministry of Energy
5. Ontario Ministry of the Environment
6. PEPSI
7. Red Lake District H.S.
   Red Lake, Ontario

   North Addington Education Centre
   Cloyne, Ontario

   Sutton District H.S.
   Sutton West, Ontario

   Bruce Peninsula District
   Lion's Head, Ontario

   Lockerby Composite
   Sudbury, Ontario

   Etobicoke C.I.
   Toronto, Ontario

   Bayview S.S.
   Richmond Hill, Ontario

   Thornhill S.S.
   Thornhill, Ontario

   Moira S.S.
   Belleville, Ontario

   Oakville-Trafalgar H.S.
   Oakville, Ontario

   Woodroffe Elementary
   Kanata, Ontario

   University of Toronto
   Toronto, Ontario

   Hagersville Secondary
   Hagersville, Ontario

   Markham District H.S.
   Markham, Ontario

   Earl of March S.S.
   Kanata, Ontario

   Thorold S.S.
   Thorold, Ontario

   West Humber C.I.
   Toronto, Ontario

   Huron Heights S.S.
   Newmarket, Ontario

   Vaughan S.S.
   Vaughan, Ontario

   Harbord C.I.
   Toronto, Ontario

   King City S.S.
   King City, Ontario

   Norseman Jr. Middleton
   Etobicoke, Ontario

   Kinsmere Elementary
   Ottawa, Ontario

8. Judges: Alex Waters, Rob McMonagle, Steve Thwaites, Jim McDougall, Doug Lorriman (MC), Don Anderson, Per Drewes, Alfred Brunger and Tom Markowitz.